Contents

Volume 69, Number 1, January 2006

Research and Techniques Papers

Tytus Bernas, Elikplimi K. Asem, J. Paul Robinson, and Bartek Rajwa
Compression of Fluorescence Microscopy Images Based on the Signal-to-Noise Estimation 1

M. von Tiedemann, A. Fridberger, M. Ulfendahl, and J. Boutet De Monvel
Image Adaptive Point-Spread Function Estimation and Deconvolution for In Vivo Confocal Microscopy 10

Florentina Díaz, Alicia Villena, Lourdes Vidal, Mercedes Moreno, and Ignacio Pérez de Vargas
NADPH-Diaphorase Activity in the Superficial Layers of the Superior Colliculus of Rats During Aging 21

Masaki Ueno, Shuhei Tomita, Toshitaka Nakagawa, Masaaki Ueki, Yasuyuki Iwanaga, Jun-Ichiro Ono, Masayuki Onodera, Cheng-Long Huang, Kenji Kanenishi, Atsuyoshi Shimada, Nobuhiro Maekawa, and Haruhiko Sakamoto
Effects of Aging and HIF-1α Deficiency on Permeability of Hippocampal Vessels 29

Karin Carbone, Nilda M.P. Pinto, Paulo A. Abrahamsohn, and Telma M.T. Zorn
Arrangement and Fine Structure of Collagen Fibrils in the Decidualized Mouse Endometrium 36

Ifaat Agmon, Marian Plotkin, Natalya Y. Ermakov, Zahava Barkay, and Jacob S. Ishay
Antennal and Cephalic Organelles in the Social Wasp *Paravespula germanica* (Hymenoptera, Vespinae): Form and Possible Function 46

Cedric Dérue, David Gibouin, Maurice Demarty, Marie-Claire Verdus, Fabrice Lefebvre, Michel Thellier, and Camille Ripoll
Dynamic-SIMS Imaging and Quantification of Inorganic Ions in Frozen-Hydrated Plant Samples 53

Volume 69, Number 2, February 2006

Research and Techniques Papers

Benjamin Frey, Markus Hartmann, Martin Herrmann, Roland Meyer-Pittroff, Karl Sommer, and Gerrit Bluemelhuber
Microscopy Under Pressure—An Optical Chamber System for Fluorescence Microscopic Analysis of Living Cells Under High Hydrostatic Pressure 65

Minqi Li, Norio Amizuka, Kiichi Takeuchi, Paulo H.L. Freitas, Yoshiro Kawano, Masaaki Hoshino, Kimimitsu Oda, Kayoko Nozawa-Inoue, and Takeyasu Maeda
Histochemical Evidence of Osteoclastic Degradation of Extracellular Matrix in Osteolytic Metastasis Originating From Human Lung Small Carcinoma (SBC-5) Cells 73

Contents

Volume 69, Number 1, January 2006

Research and Techniques Papers

Tytus Bernas, Elikplimi K. Asem, J. Paul Robinson, and Bartek Rajwa
Compression of Fluorescence Microscopy Images Based on the Signal-to-Noise Estimation 1

M. von Tiedemann, A. Fridberger, M. Ulfendahl, and J. Boutet De Monvel
Image Adaptive Point-Spread Function Estimation and Deconvolution for In Vivo Confocal Microscopy 10

Florentina Díaz, Alicia Villena, Lourdes Vidal, Mercedes Moreno, and Ignacio Pérez de Vargas
NADPH-Diaphorase Activity in the Superficial Layers of the Superior Colliculus of Rats During Aging 21

Masaki Ueno, Shuhei Tomita, Toshitaka Nakagawa, Masaaki Ueki, Yasuyuki Iwanaga, Jun-Ichiro Ono, Masayuki Onodera, Cheng-Long Huang, Kenji Kanenishi, Atsuyoshi Shimada, Nobuhiro Maekawa, and Haruhiko Sakamoto
Effects of Aging and HIF-1α Deficiency on Permeability of Hippocampal Vessels 29

Karin Carbone, Nilda M.P. Pinto, Paulo A. Abrahamsohn, and Telma M.T. Zorn
Arrangement and Fine Structure of Collagen Fibrils in the Decidualized Mouse Endometrium 36

Ifaat Agmon, Marian Plotkin, Natalya Y. Ermakov, Zahava Barkay, and Jacob S. Ishay
Antennal and Cephalic Organelles in the Social Wasp *Paravespula germanica* (Hymenoptera, Vespinae): Form and Possible Function 46

Cedric Dérue, David Gibouin, Maurice Demarty, Marie-Claire Verdus, Fabrice Lefebvre, Michel Thellier, and Camille Ripoll
Dynamic-SIMS Imaging and Quantification of Inorganic Ions in Frozen-Hydrated Plant Samples 53

Volume 69, Number 2, February 2006

Research and Techniques Papers

Benjamin Frey, Markus Hartmann, Martin Herrmann, Roland Meyer-Pittroff, Karl Sommer, and Gerrit Bluemelhuber
Microscopy Under Pressure—An Optical Chamber System for Fluorescence Microscopic Analysis of Living Cells Under High Hydrostatic Pressure 65

Minqi Li, Norio Amizuka, Kiichi Takeuchi, Paulo H.L. Freitas, Yoshiro Kawano, Masaaki Hoshino, Kimimitsu Oda, Kayoko Nozawa-Inoue, and Takeyasu Maeda
Histochemical Evidence of Osteoclastic Degradation of Extracellular Matrix in Osteolytic Metastasis Originating From Human Lung Small Carcinoma (SBC-5) Cells 73

Grégory Francius, Joseph Hemmerlé, Jacques Ohayon, Pierre Schaaf, Jean-Claude Voegel, Catherine Picart, and Bernard Senger
Effect of Crosslinking on the Elasticity of Polyelectrolyte Multilayer Films Measured by Colloidal Probe AFM 84

Michael W. Hess, Kristian Pfaller, Bernhard Hampölz, Stefano Longato, David Teis, Angelika Flörl, Karin Gutleben, and Lukas A. Huber
Microscopy of the *Drosophila* Facet Eye: Vademecum for Standardized Fixation, Embedding, and Sectioning 93

Maria Sen Mun Wai, Dietrich Ernst Lorke, Lai Sin Kung, and David Tai Wai Yew
Morphogenesis of the Different Types of Photoreceptors of the Chicken (*Gallus domesticus*) Retina and the Effect of Amblyopia in Neonatal Chicken 99

Erika Maria Silva Freitas, Márcia M. Fagian, and Maria Alice Da Cruz Höfling
Effects of Veratrine on Skeletal Muscle Mitochondria: Ultrastructural, Cytochemical, and Morphometrical Studies 108

Jana Vojtová, Olga Kofroňová, Peter Šebo, and Oldřich Benada
Bordetella Adenylate Cyclase Toxin Induces a Cascade of Morphological Changes of Sheep Erythrocytes and Localizes Into Clusters in Erythrocyte Membranes 119

Nadia Arcamone, Carla Lucini, Lucianna Maruccio, Luciana Castaldo, Giuliana Gargiulo, and Paolo de Girolamo
Distribution of Neurotrophin and TrK Receptor-Like Immunoreactivity in the Adrenal Gland of Birds 130

Thomas Krucker, Axel Lang, and Eric P. Meyer
New Polyurethane-Based Material for Vascular Corrosion Casting With Improved Physical and Imaging Characteristics 138

Volume 69, Number 3, March 2006

Topical Papers

Visible Fluorescent Proteins
Guest Editor: Alberto Diaspro

Alberto Diaspro
Introduction: Shine on ... Proteins 149

Sally L. Hanton and Federica Brandizzi
Fluorescent Proteins As Markers in the Plant Secretory Pathway 152

Yale J. Passamaneck, Anna Di Gregorio, Virginia E. Papaioannou, and Anna-Katerina Hadjantonakis
Live Imaging of Fluorescent Proteins in Chordate Embryos: From Ascidians to Mice 160

Ruchira Engel, Peter J.M. Van Haastert, and Antonie J.W.G. Visser
Spectral Characterization of *Dictyostelium* Autofluorescence 168

Gregor Jung and Andreas Zumbusch
Improving Autofluorescent Proteins: Comparative Studies of the Effective Brightness of Green Fluorescent Protein (GFP) Mutants 175

W. Becker, A. Bergmann, E. Haustein, Z. Petrasek, P. Schwille, C. Biskup, L. Kelbauskas, K. Benndorf, N. Klöcker, T. Anhut, I. Riemann, and K. König
Fluorescence Lifetime Images and Correlation Spectra Obtained by Multidimensional Time-Correlated Single Photon Counting 186

Horst Wallrabe, Ye Chen, Ammasi Periasamy, and Margarida Barroso
Issues in Confocal Microscopy for Quantitative FRET Analysis 196

Ekaterina A. Souslova and Dmitriy M. Chudakov
Photoswitchable Cyan Fluorescent Protein as a FRET Donor 207

S.P. Schäfer, P.S. Dittrich, E.P. Petrov, and P. Schwille
Single Molecule Fluorescence Imaging of the Photoinduced Conversion and Bleaching Behavior of the Fluorescent Protein Kaede 210

Yan Chen, Patrick J. Macdonald, Joseph P. Skinner, George H. Patterson, and Joachim D. Müller
Probing Nucleocytoplasmic Transport by Two-Photon Activation of PA-GFP 220

Volume 69, Number 4, April 2006

Research and Techniques Papers

G. Alexandre-Pires, D. Pais, M. Correia, and J.A. Esperança Pina
Leishmaniosis—A Report About the Microvascular and Cellular Architecture of the Infected Spleen in *Canis familiaris* 227

Mark McDowell, Elizabeth Gray, and Richard B. Rogers
An Autonomous Phase-Boundary Detection Technique for Colloidal Hard Sphere Suspension Experiments 236

Jordi Galbany, Ferran Estebaranz, Laura M. Martínez, Alejandro Romero, Joaquín De Juan, Daniel Turbón, and Alejandro Pérez-Pérez
Comparative Analysis of Dental Enamel Polyvinylsiloxane Impression and Polyurethane Casting Methods for SEM Research 246

Huimei Chi, Zhongdang Xiao, Degang Fu, and Zuhong Lu
Analysis of Fluorescence From Algae Fossils of the Neoproterozoic Doushantuo Formation of China by Confocal Laser Scanning Microscope 253

Nicolas Dey, Laure Blanc-Feraud, Christophe Zimmer, Pascal Roux, Zvi Kam, Jean-Christophe Olivo-Marin, and Josiane Zerubia
Richardson–Lucy Algorithm With Total Variation Regularization for 3D Confocal Microscope Deconvolution 260

Dongxian Zhang, Haijun Zhang, and Yulin He
In-Situ Thickness Measurement of Porous Alumina by Atomic Force Microscopy and the Reflectance Wavelength Measurement From 400–1000 nm **267**

V. Vanthanouvong, I. Kozlova, M. Johannesson, E. Nääs, S.L. Nordvall, A. Dragomir, and G.M. Roomans
Composition of Nasal Airway Surface Liquid in Cystic Fibrosis and Other Airway Diseases Determined by X-ray Microanalysis **271**

Zhi-Tao Liang, Zhi-Hong Jiang, Kelvin-Sze-Yin Leung, Yong Peng, and Zhong-Zhen Zhao
Distinguishing the Medicinal Herb *Oldenlandia diffusa* From Similar Species of the Same Genus Using Fluorescence Microscopy **277**

Youri Arntz, Laurent Jourdainne, Géraldine Greiner-Wacker, Simon Rinckenbach, Joëlle Ogier, Jean-Claude Voegel, Philippe Lavalle, and Dominique Vautier
Immunogold Detection of Types I and II Chondrocyte Collagen Fibrils: An In Situ Atomic Force Microscopic Investigation **283**

Nobuo Terada, Nobuhiko Ohno, Yasuhisa Fujii, Takeshi Baba, and Shinichi Ohno
Dynamic Study of Intramembranous Particles in Human Fresh Erythrocytes Using an "In Vitro Cryotechnique" **291**

Diego Fontaneto and Giulio Melone
Postembryonic Development of Hard Jaws (Trophi) in a Species Belonging to the *Brachionus plicatilis* Complex (Rotifera, Monogononta): A Morphometric Analysis **296**

Volume 69, Number 5, May 2006

Topical Papers

Imaging Crystalline Defects
Guest Editor: Martin A. Crimp

Martin A. Crimp
Introduction **303**

Robin Schäublin
Nanometric Crystal Defects in Transmission Electron Microscopy **305**

M.J. Mills, N.L. Baluc, and P.M. Sarosi
HRTEM of Dislocation Cores and Thin-Foil Effects in Metals and Intermetallic Compounds **317**

Ilke Arslan and Nigel D. Browning
Atomic Scale Defect Analysis in the Scanning Transmission Electron Microscope **330**

Balaji Raghothamachar, Govindhan Dhanaraj, Jie Bai, and Michael Dudley
Defect Analysis in Crystals Using X-ray Topography 343

Michael K. Miller
Atom Probe Tomography Characterization of Solute Segregation to Dislocations 359

Yali Chen and David P. Pope
AFM Study of the Plastic Deformation of Polysynthetically-Twinned (PST) TiAl Crystals in Soft Orientation 366

Martin A. Crimp
Scanning Electron Microscopy Imaging of Dislocations in Bulk Materials, Using Electron Channeling Contrast 374

Volume 69, Number 6, June 2006

Editorial

George C. Ruben
Microscopy Research and Technique (MRT) 383
Published online 22 May 2006

Topical Papers

Structural Bases of the Ovarian Function
Dedicated to the memory of Prof. Pietro M. Motta (1942–2002)
Guest Editors: Stefania A. Nottola and Guido Macchiarelli

Stefania Annarita Nottola and Guido Macchiarelli
Structural Bases of the Ovarian Function: An Introduction 384
Published online 22 May 2006

Jaime Pereda, Telma Zorn, and Mauricio Soto-Suazo
Migration of Human and Mouse Primordial Germ Cells and Colonization of the Developing Ovary: An Ultrastructural and Cytochemical Study 386
Published online 22 May 2006

A. Henry Sathananthan, Kamala Selvaraj, M. Lakshmi Girijashankar, Vijaya Ganesh, Priya Selvaraj, and Alan O. Trounson
From Oogonia to Mature Oocytes: Inactivation of the Maternal Centrosome in Humans 396
Published online 22 May 2006

Sandra Cecconi, Gianna Rossi, and Maria Grazia Palmerini
Mouse Oocyte Differentiation During Antral Follicle Development 408
Published online 22 May 2006

Giuseppe Familiari, Michela Relucenti, Rosemarie Heyn, Giulietta Micara, and Silvia Correr
Three-Dimensional Structure of the Zona Pellucida at Ovulation **415**
Published online 22 May 2006

Eimei Sato, Naoko Kimura, Masaki Yokoo, Yuko Miyake, and Joh-E Ikeda
Morphodynamics of Ovarian Follicles During Oogenesis in Mice **427**
Published online 22 May 2006

Sayoko Makabe, Tomonori Naguro, and Tiziana Stallone
Oocyte–Follicle Cell Interactions During Ovarian Follicle Development, as Seen by High Resolution Scanning and Transmission Electron Microscopy in Humans **436**
Published online 22 May 2006

Kimihisa Tajima, Makoto Orisaka, Hirotsugu Yata, Kenji Goto, Kumiko Hosokawa, and Fumikazu Kotsuji
Role of Granulosa and Theca Cell Interactions in Ovarian Follicular Maturation **450**
Published online 22 May 2006

Guido Macchiarelli, Jin-Yi Jiang, Stefania A. Nottola, and Eimei Sato
Morphological Patterns of Angiogenesis in Ovarian Follicle Capillary Networks. A Scanning Electron Microscopy Study of Corrosion Cast **459**
Published online 22 May 2006

Hitoshi Okamura, Hidetaka Katabuchi, Makoto Nitta, and Hideyuki Ohtake
Structural Changes and Cell Properties of Human Ovarian Surface Epithelium in Ovarian Pathophysiology **469**
Published online 22 May 2006

Antonin Bukovsky
Immune System Involvement in the Regulation of Ovarian Function and Augmentation of Cancer **482**
Published online 22 May 2006

Ronald Henry Fraser Hunter, Niels Einer-Jensen, and Torben Greve
Presence and Significance of Temperature Gradients Among Different Ovarian Tissues **501**
Published online 22 May 2006

Stefania A. Nottola, Rosemarie Heyn, Alessandra Camboni, Silvia Correr, and Guido Macchiarelli
Ultrastructural Characteristics of Human Granulosa Cells in a Coculture System for In Vitro Fertilization **508**
Published online 22 May 2006

Erratum

von Tiedemann et al., Image Adaptive Point-Spread Function Estimation and Deconvolution for In Vivo Confocal Microscopy. *Microscopy Research and Technique* 69:10–20. **517**
Published online 22 May 2006

Volume 69, Number 7, July 2006

Topical Papers

Nanomaterials Characterization Using Microscopy — Part II
Guest Editor: Chuanbin Mao

Chuanbin Mao
Nanomaterials Characterization: Structures, Compositions, and Properties **519**
Published online 9 June 2006

J.A. Ascencio, H.B. Liu, U. Pal, A. Medina, and Z.L. Wang
Transmission Electron Microscopy and Theoretical Analysis of AuCu Nanoparticles: Atomic Distribution and Dynamic Behavior **522**
Published online 26 May 2006

M. Terauchi
Electronic Structure Analyses of BN Network Materials Using High Energy-Resolution Spectroscopy Methods Based on Transmission Electron Microscopy **531**
Published online 22 May 2006

Richard M. Langford
Focused Ion Beams Techniques for Nanomaterials Characterization **538**
Published online 31 May 2006

Alex de Lozanne
Application of Magnetic Force Microscopy in Nanomaterials Characterization **550**
Published online 26 May 2006

Alexandre Bouhelier
Field-Enhanced Scanning Near-Field Optical Microscopy **563**
Published online 12 June 2006

Research and Techniques Papers

Takashi Fujii, Takaaki Ueno, Toshimasa Kagawa, Yoshirou Sakata, and Toshio Sugahara
Comparison of Bone Formation Ingrafted Periosteum Harvested From Tibia and Calvaria **580**
Published online 22 May 2006

José A. Cámara, Manuel Garrosa, and Manuel J. Gayoso
Histological Changes in Rat Nasal Epithelia After Unilateral Neonatal Naris Occlusion **585**
Published online 22 May 2006

Edurne Alonso, Laura Gómez, Juan Francisco Madrid, and Francisco José Sáez
Identification of Mannose Moieties in N- and O-Linked Oligosaccharides of the Primordial Germ Cells of *Xenopus* Embryos **595**
Published online 23 May 2006

Volume 69, Number 8, August 2006

Research and Techniques Papers

Ying T. Mak, Wood Yee Chan, W.P. Lam, and David T. Yew
Immunohistological Evidences of *Ginkgo biloba* Extract Altering Bax to Bcl-2 Expression Ratio in the Hippocampus and Motor Cortex of Senescence Accelerated Mice **601**
Published online 23 May 2006

Gaël Grimandi, Assem Soueidan, Abed Aktam Anjrini, Zahi Badran, Paul Pilet, Guy Daculsi, Corinne Faucheux, Jean Michel Bouler, and Jérôme Guicheux
Quantitative and Reliable In Vitro Method Combining Scanning Electron Microscopy and Image Analysis for the Screening of Osteotropic Modulators **606**
Published online 22 May 2006

B. Angelova, P. Fernandes, D. Spasova, S. Mutafov, H.M. Pinheiro, and J.M.S. Cabral
Scanning Electron Microscopy Investigations on bis(2-Ethylhexyl)phthalate Treated *Mycobacterium* Cells **613**
Published online 25 May 2006

H.L. Feng, A. Hershlag, Y.B. Han, and L.J. Zheng
Localizations of Intracellular Calcium and Ca^{2+}-ATPase in Hamster Spermatogenic Cells and Spermatozoa **618**
Published online 1 June 2006

Martin Čapek, Jiří Janáček, and Lucie Kubínová
Methods for Compensation of the Light Attenuation With Depth of Images Captured by a Confocal Microscope **624**
Published online 1 June 2006

Lorenzo Gallus, Massimiliano Bottaro, Sara Ferrando, Laura Girosi, Paola Ramoino, and Grazia Tagliafierro
Distribution of FMRFamide-Like Immunoreactivity in the Alimentary Tract and Hindgut Ganglia of the Barnacle *Balanus amphitrite* (Cirripedia, Crustacea) **636**
Published online 12 June 2006

Alexa L. Mattheyses, Keith Shaw, and Daniel Axelrod
Effective Elimination of Laser Interference Fringing in Fluorescence Microscopy by Spinning Azimuthal Incidence Angle **642**
Published online 12 June 2006

Michael C. Ferko, Brian W. Patterson, and Peter J. Butler
High-Resolution Solid Modeling of Biological Samples Imaged with 3D Fluorescence Microscopy **648**
Published online 6 June 2006

Sanghoon Jheon, Hwa-Shik Youn, Hong-Tae Kim, Gi-Hwan Choi, and Jong-Ki Kim
High-Resolution X-ray Refraction Imaging of Rat Lung and Histological Correlations **656**
Published online 12 June 2006

C. Rau, I.K. Robinson, and C.-P. Richter
Visualizing Soft Tissue in the Mammalian Cochlea With Coherent Hard X-Rays **660**
Published online 20 June 2006

Lucia Reale, Antonia Lai, Ida Bellucci, Anatoly Faenov, Tatiana Pikuz, Francesco Flora, Laura Spanò, Anna Poma, Tania Limongi, Libero Palladino, Antonio Ritucci, Giuseppe Tomassetti, Giovanni Petrocelli, and Sergio Martellucci
Microradiography as a Tool to Detect Heavy Metal Uptake in Plants for Phytoremediation Applications **666**
Published online 20 June 2006

Liliya Harri and Herbert Czichon
Microscopic Studies of the Influence of Technological Conditions on Technical Parameters of Photopolymer Flexographic Plates **675**
Published online 25 May 2006

Eduardo A. Favret, Néstor O. Fuentes, and Ana M. Molina
Quantitative Study of *Xanthosoma violaceum* Leaf Surfaces Using RIMAPS and Variogram Techniques **684**
Published online 20 June 2006

Volume 69, Number 9, September 2006

Research and Techniques Papers

Rolf T. Borlinghaus
MRT Letter: High Speed Scanning Has the Potential to Increase Fluorescence Yield and to Reduce Photobleaching **689**
Published online 28 July 2006

Permsin Marbet, Christoph Rahner, Bruno Stieger, and Lukas Landmann
Quantitative Microscopy Reveals 3D Organization and Kinetics of Endocytosis in Rat Hepatocytes **693**
Published online 2 August 2006

Karsten Rodenacker, Burkhard Hense, Uta Jütting, and Peter Gais
Automatic Analysis of Aqueous Specimens for Phytoplankton Structure Recognition and Population Estimation **708**
Published online 4 August 2006

Vladimir Kirillov, Elena Stebenyaeva, Andrey Paplevka, and Evgeny Demidchik
A Rapid Method for Diagnosing Regional Metastases of Papillary Thyroid Cancer With Morphometry **721**
Published online 2 August 2006

Anderson J. Franzen, Marcel M.L. Cunha, Evander J.O. Batista, Sergio H. Seabra, Wanderley De Souza, and Sonia Rozental
Effects of Tricyclazole (5-methyl-1,2,4-triazol[3,4]benzothiazole), a Specific DHN–Melanin Inhibitor, on the Morphology of *Fonsecaea pedrosoi* Conidia and Sclerotic Cells **729**
Published online 18 July 2006

Larisa M. Baryshnikova, Oliver Von Bohlen und Halbach, Suleyman Kaplan, and Christopher S. Von Bartheld
Two Distinct Events, Section Compression and Loss of Particles ("Lost Caps"), Contribute to z-Axis Distortion and Bias in Optical Disector Counting **738**
Published online 14 July 2006

Mark F. Murphy, Michael J. Lalor, Francis C.R. Manning, Francis Lilley, Steven R. Crosby, Catherine Randall, and David R. Burton
Comparative Study of the Conditions Required to Image Live Human Epithelial and Fibroblast Cells Using Atomic Force Microscopy **757**
Published online 4 August 2006

Volume 69, Number 10, October 2006

Research and Techniques Papers

Uday K. Tirlapur, William J. Mulholland, Brian J. Bellhouse, Mark Kendall, J. Fredrick Cornhill, and Zhanfeng Cui
Femtosecond Two-Photon High-Resolution 3D Imaging, Spatial-Volume Rendering and Microspectral Characterization of Immunolocalized MHC-II and mLangerin/CD207 Antigens in the Mouse Epidermis **767**
Published online 29 August 2006

Harriet Nilsson, Anca Dragomir, Anders Ahlander, Marianne Ljungkvist, and Godfried M. Roomans
A Modified Technique for the Impregnation of Lanthanum Tracer to Study the Integrity of Tight Junctions on Cells Grown on a Permeable Substrate **776**
Published online 24 July 2006

Wanyun Ma, Yunxu Sun, Dong Han, Weiguo Chu, Danying Lin, and Dieyan Chen
Cytoskeletal Response of Microvessel Endothelial Cells to an Applied Stress Force at the Submicrometer Scale Studied by Atomic Force Microscopy **784**
Published online 4 August 2006

Vanessa Campo-Ruiz, Dinesh Patel, R. Rox Anderson, Emilio Delgado-Baeza, and Salvador González
Virtual Biopsy of the Joint Tissues Using Near-Infrared, Reflectance Confocal Microscopy. A Pilot Study **794**
Published online 6 June 2006

Yong Liu, Hong-Shu Sui, Hui-Li Wang, Ji-Hong Yuan, Ming-Jiu Luo, Ping Xia, and Jing-He Tan
Germinal Vesicle Chromatin Configurations of Bovine Oocytes **799**
Published online 2 August 2006

Patrik Danielson, Håkan Alfredson, and Sture Forsgren
Immunohistochemical and Histochemical Findings Favoring the Occurrence of Autocrine/Paracrine as well as Nerve-Related Cholinergic Effects in Chronic Painful Patellar Tendon Tendinosis **808**
Published online 7 July 2006

Zhi-Wei Wan, Hai-Yan Wang, and Xue-Xin Chen
Venom Apparatus of the Endoparasitoid Wasp *Opius caricivorae* Fischer (Hymenoptera: Braconidae): Morphology and Ultrastructure **820**
Published online 7 July 2006

F. Orsini, M. Santacroce, C. Perego, C. Lenardi, M. Castagna, S.A. Mari, V.F. Sacchi, and G. Poletti
Atomic Force Microscopy Characterization of *Xenopus laevis* Oocyte Plasma Membrane **826**
Published online 2 August 2006

Philip C. De Witt Hamer, Fonnet E. Bleeker, Aeilko H. Zwinderman, and Cornelis J.F. Van Noorden
Can You Trust Your Cryostat? Reproducibility of Cryostat Section Thickness **835**
Published online 13 September 2006

Naoki Kondo, Kunihiko Tokunaga, Tomoyuki Ito, Katsumitsu Arai, Norio Amizuka, Li Minqi, Hiroshi Kitahara, Masayuki Ito, Makoto Naito, Jiang Shu-Ying, Kimimitsu Oda, Takehiro Murai, Reiko Takano, Akira Ogose, and Naoto Endo
High Dose Glucocorticoid Hampers Bone Formation and Resorption After Bone Marrow Ablation in Rat **839**
Published online 13 September 2006

Volume 69, Number 11, November 2006

Research and Techniques Papers

N.M. Dragomir, E. Ampen-Lassen, G.W. Baxter, P. Pace, S.T. Huntington, P.M. Farrell, A.J. Stevenson, and A. Roberts
Analysis of Changes in Optical Fibers During Arc-Fusion Splicing by Use of Quantitative Phase Imaging **847**
Published online 9 October 2006

S. Volynchik, M. Plotkin, N.Y. Ermakov, D.J. Bergman, and J.S. Ishay
Thermovoltaic Properties of Hornet Silk **852**
Published online 9 October 2006

Serge Pelet, Michael J.R. Previte, Daekeun Kim, Ki Hean Kim, Tsu-Te J. Su, and Peter T.C. So
Frequency Domain Lifetime and Spectral Imaging Microscopy **861**
Published online 21 August 2006

Emily Smith, Frank Lally, Michael A. Stone, John S. Shaw, Gerard B. Nash, Christopher D. Buckley, and G. Ed Rainger
Phototoxicity and Fluorotoxicity Combine to Alter the Behavior of Neutrophils in Fluorescence Microscopy Based Flow Adhesion Assays **875**
Published online 9 October 2006

Solange Marques-Silva, Cirlei P. Matiello-Guss, Jacques H.C. Delabie, Cléa S.F. Mariano, José C. Zanuncio, and José Eduardo Serrão
Sensilla and Secretory Glands in the Antennae of a Primitive Ant: *Dinoponera lucida* (Formicidae: Ponerinae) **885**
Published online 2 August 2006

Jay R. Unruh, E. Shane Price, Roque G. Molla, Rongqing Hui, and Carey K. Johnson
Evaluation of a Femtosecond Fiber Laser for Two-Photon Fluorescence Correlation Spectroscopy 891
Published online 2 August 2006

Linda Z. Shi, Jaclyn Nascimento, Charlie Chandsawangbhuwana, Michael W. Berns, and Elliot L. Botvinick
Real-Time Automated Tracking and Trapping System for Sperm 894
Published online 4 August 2006

Stanislav Volynchik, Marian Plotkin, Natalya Y. Ermakov, David J. Bergman, and Jacob S. Ishay
Presence of a Thermoregulatory Hot Spot in the Prothorax of the Large Carpenter Bee and the Bumble Bee 903
Published online 1 September 2006

Conceicao A. Santos and Ana M. Costa-Leonardo
Anatomy of the Frontal Gland and Ultramorphology of the Frontal Tube in the Soldier Caste of Species of Nasutitermitinae (Isoptera, Termitidae) 913
Published online 9 October 2006

Simone Sangiorgi, Alessandro Manelli, Carlo Dell'Orbo, and Terenzio Congiu
A New Method for the Joint Visualization of Vascular Structures and Connective Tissues: Corrosion Casting and 1 N NaOH Maceration 919
Published online 18 August 2006

Monica Piras, Giacomo Diaz, Bernard Tandler, Silvana Bernardini, Margherita Cossu, Maria S. Lantini, Angela M. Falchi, Marta Melis, and Marco Piludu
A Simple Method to Obtain *En Face* Sections of Flat Tissue Culture Cells 924
Published online 29 August 2006

Chun-Fung Tam, Yong Peng, Zhi-Tao Liang, Zhen-Dan He, and Zhong-Zhen Zhao
Application of Microscopic Techniques in Authentication of Herbal Tea—Ku-Ding-Cha 927
Published online 29 August 2006

Marc Tramier, Morad Zahid, Jean-Claude Mevel, Marie-Jo Masse, and Maïté Coppey-Moisan
Sensitivity of CFP/YFP and GFP/mCherry Pairs to Donor Photobleaching on FRET Determination by Fluorescence Lifetime Imaging Microscopy in Living Cells 933
Published online 29 August 2006

Volume 69, Number 12, December 2006

Research and Techniques Papers

Muriel Hachet-Haas, Noël Converset, Olivier Marchal, Hans Matthes, Sophie Gioria, Jean-Luc Galzi, and Sandra Lecat
FRET and Colocalization Analyzer—A Method to Validate Measurements of Sensitized Emission FRET Acquired by Confocal Microscopy and Available as an ImageJ Plug-in 941
Published online 1 November 2006

V. Sugumar and N. Munuswamy
Ultrastructure of Cyst Shell and Underlying Membranes of Three Strains of the Brine Shrimp *Artemia* (Branchiopoda: Anostraca) From South India **957**
Published online 18 August 2006

Markus C. Fleisch, Christopher A. Maxwell, Claudia K. Kuper, Erika T. Brown, Mary Helen Barcellos-Hoff, and Sylvain V. Costes
Intensity-Based Signal Separation Algorithm for Accurate Quantification of Clustered Centrosomes in Tissue Sections **964**
Published online 29 August 2006

Wen Lo, Shu-Wen Teng, Hsin-Yuan Tan, Ki Hean Kim, Hsiao-Ching Chen, Hsuan-Shu Lee, Yang-Fan Chen, Peter T.C. So, and Chen-Yuan Dong
Intact Corneal Stroma Visualization of GFP Mouse Revealed by Multiphoton Imaging **973**
Published online 13 September 2006

Nenad Ignjatović, Petar Ninkov, Vesna Kojić, Miloš Bokurov, Vladimir Srdić, Dijana Krnojelac, Srećko Selaković, and Dragan Uskoković
Cytotoxicity and Fibroblast Properties During In Vitro Test of Biphasic Calcium Phosphate/Poly-dl-lactide-co-glycolide Biocomposites and Different Phosphate Materials **976**
Published online 29 September 2006

Enzo Di Iorio, Vanessa Barbaro, Stefano Ferrari, Claudio Ortolani, Michele De Luca, and Graziella Pellegrini
Q-FIHC: Quantification of Fluorescence Immunohistochemistry to Analyse *p63* Isoforms and Cell Cycle Phases in Human Limbal Stem Cells **983**
Published online 13 September 2006

Chih-Yuan Hsiao, Yen Sun, Wei-Liang Chen, Chih-Kuan Tung, Wen Lo, Jiunn-Wen Su, Sung-Jan Lin, Shiou-Hwa Jee, Gwo-Jen Jan, and Chen-Yuan Dong
Effects of Different Immersion Media in Multiphoton Imaging of the Epithelium and Dermis of Human Skin **992**
Published online 15 September 2006

Zhiguo Liu, Zhuang Li, Gang Wei, Yonghai Song, Li Wang, and Lanlan Sun
Manipulation, Dissection, and Lithography Using Modified Tapping Mode Atomic Force Microscope **998**
Published online 15 September 2006

Delphine Bourdais, Philippe Vernon, Liliane Krespi, Jo Le Lannic, and Joan Van Baaren
Antennal Structure of Male and Female *Aphidius rhopalosiphi* DeStefani-Peres (Hymenoptera:Braconidae): Description and Morphological Alterations After Cold Storage or Heat Exposure **1005**
Published online 3 October 2006

Olivia García-Suárez, Tatiana González-Martínez, Antonino Germana, Diego F. Monjil, Juan R. Torrecilla, Rosaria Laurà, Immaculada Silos-Santiago, Jose L. Guate, and José A. Vega
Expression of TrkB in the Murine Kidney **1014**
Published online 29 September 2006